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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,841	09/19/2001	Jan Van de Berg	310.1019	6597

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EXAMINER

JACKSON, ANDRE K

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,841

Applicant(s)

VAN DE BERG ET AL.

Examiner

André K. Jackson

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figure 1 there is an unlabeled item below 18. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 9, line 2 --be-- should be inserted between "can" and "determine".

Appropriate correction is required.

Claim Objections

3. Claim 18 is objected to because of the following informalities:

Regarding claim 18, line 2 "optionally" is deemed to be indefinite.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain

subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Applicants have included the limitations inactive and active state. This limitation is not described in the specification. Does this limitation mean that the sensor has an active/inactive "on/off" switch? Does this limitation mean that when there is no liquid present the sensor is not "active"? Does this limitation mean that since there is no electromagnetic field applied to the sensor it is not "active"? Clarification is needed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4030284 in view of Roberts (GB 2192059) and Nishijima et al. (EP 0329436).

Regarding claim 1, DE 4030284 discloses a reading device, a resonant circuit and a sensor (Figure 1). What is not disclosed by DE

4030284 is wirelessly generating the electromagnetic field and wirelessly recording the response. However, Roberts discloses a means for wirelessly generating the electromagnetic field and wirelessly recording the response (Page 1, lines 93-101). Therefore, to modify DE 4030284 to include a means for wirelessly generating the electromagnetic field and wirelessly recording the response would have been obvious to one of ordinary skill in the art at the time of the invention in view of the teachings of Roberts. The use of wireless transmitters and receivers provides remote communication and is less prone to environmental disruption. The skilled artisan would therefore be motivated to substitute the conventional generators with the more robust wireless system. What is not disclosed by DE 4030284 is a moisture sensitive material that increases its resistance when it comes into contact with moisture. However, Nishijima et al. disclose a "Moisture and dew-detection sensor" which discloses a moisture sensitive material that increases its resistance when it comes into contact with moisture (Page 5, lines 20-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify DE 4030284 to include where a moisture sensitive material that increases its resistance when it comes into contact with moisture as taught by Nishijima et al. since the substance swells and the particles becomes unsatisfactory causing an increase. Therefore, using a substance that increases would not require extra calculation.

Regarding claims 2 and 3, DE 4030284 does not disclose that the Q factor of the resonant circuit increases and decreases when the resistance of the moisture sensitive material increases and decreases. However, Roberts discloses that the Q factor of the resonant circuit increases and decreases when the resistance of the moisture sensitive material increases and decreases (page 1, lines 86-92). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify DE 4030284 to include feature that the Q factor of the resonant circuit increases and decreases when the resistance of the moisture sensitive material increases and decreases as taught by Roberts since they are from the same field of endeavor.

Regarding claims 4 and 5, DE 4030284 discloses an LC circuit made from the moisture sensitive material (Figure 1).

Regarding claim 6, neither DE 4030284 nor Roberts disclose that the moisture sensitive material comprise a binding agent capable of swelling in moisture. However, Nishijima et al. discloses a moisture sensitive material comprises a binding agent capable of swelling in moisture (page 5, line 25). Therefore, the skilled artisan would have been inclined to modify DE 4030284 to include a moisture sensitive material comprise a binding agent capable of swelling in moisture as taught by Nishijima et al. since they are from the same field of endeavor.

Regarding claim 7, neither DE 4030284 nor Roberts disclose that the moisture sensitive material comprises a binding agent in which particles are capable of swelling in moisture. However, Nishijima et al. discloses a moisture sensitive material comprises a binding agent in which particles are capable of swelling in moisture (Page 5, lines 10-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify DE 4030284 to include a moisture sensitive material comprises a binding agent in which particles are capable of swelling in moisture as taught by Nishijima et al. since they are from the same field of endeavor.

Regarding claim 8, neither DE 4030284 nor Roberts disclose that the moisture sensitive material is arranged on a carrier in the form of a coating. However, Nishijima et al. discloses where a moisture sensitive material is arranged on a carrier in the form of a coating (page 5, line 63). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify DE 4030284 to include a moisture sensitive material is arranged on a carrier in the form of a coating as taught by Nishijima et al. since they are from the same field of endeavor.

Regarding claim 9, DE 4030284 discloses where at least part of the LC circuit is formed by a coating (Figure 1).

Regarding claim 10, DE 4030284 discloses that the transmitter-receiver means is designed as a transmission system for detecting an

electromagnetic response signal generated by at least one sensor (Figure 1).

Regarding claim 11, DE 4030284 discloses where at least one reading device determines on the basis of the intensity of the detected response signal to what extent the at least one sensor is in contact with the moisture (Figure 2).

Regarding claim 12, DE 4030284 discloses that the reading device comprise a threshold circuit (Figure 2, Us).

Regarding claims 13 and 14, according to the specification on page 9, lines 12-14 Applicants have disclosed, "It is also possible, that the transmitter-receiver unit is designed as a known per se absorption system". Therefore, it would have been within the purview of the skilled artisan to modify the invention to include where the transmitter-receiver unit is designed for detecting energy absorbed from the interrogation field by at least one sensor and where the one sensor and where the reading device determines to what extent the sensor is in contact with moisture without undue experimentation.

Regarding claim 15, DE 4030284 discloses where one reading device has a threshold circuit to determine whether the amount of energy absorbed is below a predetermined value (Column 2, lines 52-60).

Regarding claim 16, DE 4030284 does not disclose an alarm signal when moisture is detected. However, Roberts discloses an alarm (page 1,

lines 111-117). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify DE 4030284 to include an alarm as taught by Roberts since an indication of moisture by an alarm or indicator would be extremely useful to the operator.

Regarding claim 18, DE 4030284 comprises a central control unit that is connected with at least one reading device for obtaining information about the presence of moisture at one sensor.

Regarding claim 19, DE 4030284 discloses a resonant circuit having a resonance frequency and being at least partly formed from a moisture sensitive material with an electrical resistance (Figure 1). What is not disclosed by DE 4030284 is a moisture sensitive material that increases its resistance when it comes into contact with moisture. However, Nishijima et al. discloses a moisture sensitive material that increases its resistance when it comes into contact with moisture and that the moisture sensitive material is arranged on a carrier material in the form of a coating and part of the circuit being formed by the coating (Page 5, lines 10-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify DE 4030284 to include where a moisture sensitive material that increases its resistance when it comes into contact with moisture and that the moisture sensitive material is arranged on a carrier material in the form of a coating and part of the circuit being formed by the coating as taught by Nishijima et al. since the

substance swells and the particles becomes unsatisfactory causing an increase. Therefore, using a substance that increases would not require extra calculation. What is not disclosed by DE 4030284 is wirelessly generating the electromagnetic field and wirelessly recording the response. However, Roberts discloses a means for wirelessly generating the electromagnetic field and wirelessly recording the response (Page 1, lines 93-101). Therefore, to modify DE 4030284 to include a means for wirelessly generating the electromagnetic field and wirelessly recording the response would have been obvious to one of ordinary skill in the art at the time of the invention in view of the teachings of Roberts. The use of wireless transmitters and receivers provides remote communication and is less prone to environmental disruption. DE 4030284 discloses an activated state where a feedback signal occurs. There is no mention of an inactive state, which could simply be the opposite of the activated i.e. no signal is occurring.

Regarding claim 20, DE 4030284 does not explicitly disclose where the entirety of the LC circuit is formed by a coating. However, to coat the entire circuit would be well within the purview of the skilled artisan since this would give the entire circuit the ability to detect moisture.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4030284 in view of Roberts and Nishijima et al. as applied to claim 1 above, and further in view of Andrejasich et al.

Regarding claim 17, DE 4030284 discloses a microprocessor connected with the resonant circuit (Column 1, lines 55-67 and column 3, lines 11-33). Neither DE 4030284, Roberts nor Nishijima et al. disclose where one sensor comprises a microprocessor where an identification code is stored. However, Andrejasich et al. disclose in a "Fluid detection system" where one sensor comprises a microprocessor where an identification code is stored (Abstract, column 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify DE 4030284 to include where one sensor comprises a microprocessor where an identification code is stored as taught by Andrejasich et al. By including this feature the artisan would be able to find out which probe is detecting a fluid or a liquid when there is a plurality of probes present.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4030284 in view of Roberts, Nishijima et al., and further in view of Andrejasich et al.

Regarding claim 21, neither DE 4030284 nor Roberts disclose where the circuit is partly formed from a moisture sensitive material that increases with the contact of moisture. However, Nishijima et al. disclose a moisture sensitive material that increases its resistance when it comes into contact with moisture (Page 5, lines 20-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to

modify DE 4030284 to include where a moisture sensitive material that increases its resistance when it comes into contact with moisture as taught by Nishijima et al. since the substance swells and the particles becomes unsatisfactory causing an increase. Therefore, using a substance that increases would not require extra calculation. What is not disclosed by DE 4030284 is wirelessly generating the electromagnetic field and wirelessly recording the response. However, Roberts discloses a means for wirelessly generating the electromagnetic field and wirelessly recording the response (Page 1, lines 93-101). Therefore, to modify DE 4030284 to include a means for wirelessly generating the electromagnetic field and wirelessly recording the response would have been obvious to one of ordinary skill in the art at the time of the invention in view of the teachings of Roberts. The use of wireless transmitters and receivers provides remote communication and is less prone to environmental disruption. Neither DE 4030284, Roberts nor Nishijima et al. disclose where one sensor comprises a microprocessor where an identification code is stored. However, Andrejasich et al. disclose where one sensor comprises a microprocessor where an identification code is stored (Abstract, column 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify DE 4030284 to include where one sensor comprises a microprocessor where an identification code is stored as taught by Andrejasich et al. By

including this feature the artisan would be able to find out which probe is detecting a fluid or a liquid when there is a plurality of probes present.

Response to Arguments

9. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground of rejection.

Applicants argue that it would not be possible to combine DE 4030284 and Nishijima et al. because the Nishijima et al. reference has diametrically opposite material. The claim only calls for a moisture sensitive material. Both references use a moisture sensitive material and Nishijima et al. was used to show that it is known to use a material whose resistance increases with increasing moisture.

Applicants argue that Roberts disclose "wireless activation of a sensor for electromagnetic interrogation or any activation of a sensor". Applicants admit on page 2 of the specification that energy is supplied to the sensor via a mechanical vibration submitted to an outer wall of the container. Roberts discloses that a variety of generators can be used to energize the sensor including an electromagnetic device (Page 2, lines 5-29).

10. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE**

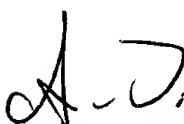
FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

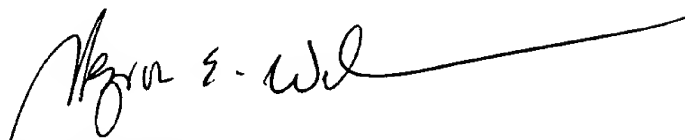
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to André K. Jackson whose telephone number is (703) 305-1522. The examiner can normally be reached on Mon.-Thurs. 7AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A.J. 
September 10, 2003


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800